ABSTRACT OF INVENTION

An improved method of and apparatus for aggregating data including a scalable multi-dimensional database (MDDB) storing multidimensional data logically organized along N dimensions and a high performance aggregation engine that performs multi-stage data aggregation operations on the multidimensional data. A first stage of such data aggregation operations is performed along a first dimension of the N dimensions; and a second stage of such data aggregation operations is performed for a given slice in the first dimension along another dimension of the N dimensions. Such multi-stage data aggregation operations achieve a significant increase in system performance (e.g. deceased access/search time). The MDDB and high performance aggregation engine of the present invention may be integrated into a standalone data aggregation server supporting an OLAP system (one or more OLAP servers and clients), or may be integrated into a database management system (DBMS), thus achieving improved user flexibility and ease of use. The improved DBMS system of the present invention can be used to realize an improved Data Warehouse for supporting on-line analytical processing (OLAP) operations or to realize an improved informational database system, operational database system, or the like.